APPLICATION OF

COLUMBIA GAS OF VIRGINIA, INC. **CASE NO. PUE980287**

For a general rate increase

REPORT OF ALEXANDER F. SKIRPAN, JR., HEARING EXAMINER

November 2, 1999

The most controversial issue in this case is the proposal by Columbia Gas to restructure its rates for residential and small general service customers. Under the Company's plan most non-gas related costs will be recovered through fixed monthly charges rather than through traditional volumetric rates. Nearly all other issues, including an annual increase in operating revenues of $3.9 million and metered propane services, are the subject of a proposed settlement offered by the parties.

HISTORY OF THE CASE

On May 15, 1998, Columbia Gas of Virginia, Inc. ("Columbia Gas" or "the Company") filed an application for authority to increase its rates and charges for gas service and to revise its tariff. The proposed rates and charges produce additional annual revenues of $5,262,273 over rates and charges the Company was proposing in then pending Case No. PUE970455. The rates and charges proposed by Columbia Gas in this case represent an increase in annual revenues of $13,801,444 over what was then the latest Commissioned-approved rates for the Company. On June 10, 1998, the Commission addressed the Company's current application and entered an Order Suspending Rates and Setting Hearing in which it directed the Company to give notice, established a procedural schedule, assigned the matter to a Hearing Examiner, and scheduled the matter for public hearing on January 12, 1999. The Company's proposed rates and charges went into effect, under bond, subject to refund, for service rendered on and after October 13, 1998.

As of July 29, 1998, Fairfax County and the Industrial Protestants[1] had filed Notices of Protests. The Division of Consumer Counsel, Office of the Attorney General ("Attorney General") advised the Commission of its intent to participate in this case on July 29, 1998. On November 18, 1998, Fairfax County withdrew its Notice of Protest.

On December 14, 1998, Columbia Gas, by counsel, filed a Motion for Extension of Time to File Rebuttal Testimony and Continuance. In its motion, Columbia Gas maintained that many of the issues involved in this case would be decided by the Commission in Case No. PUE970455.

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[1] The Industrial Protestants include: E.I. Du Pont de Nemours & Co., Inc./Conoco; Georgia-Pacific Corporation; Celanese Acetate, LLC; LG&E Power Development Corporation; Owens-Brockway Glass Container, Inc.; and Greif Bros./Virginia Fibre Corporation.

Thus, the Company requested the delay of the remainder of the procedural schedule to permit the parties to streamline the issues in this case. A Hearing Examiner's Ruling dated December 15, 1998, generally continued the filing date for the Company's rebuttal testimony and the date for the evidentiary hearing.

On January 12, 1999, a hearing was convened as originally noticed for receiving comments from the public. No public witnesses appeared at this hearing.

On February 19, 1999, the Commission issued its final order in Case No. PUE970455, in which, among other things, the Commission approved an annual increase of revenues of $4,607,122, reducing the Company's original request by $3,932,049. Consequently, the rates and charges sought by Columbia Gas in this proceeding produce additional annual revenues of $9,194,322 over the rates and charges approved by the Commission in Case No. PUE970455. In addition, in its final order in Case No. PUE970455, and in its Order Referring Additional Issues in this proceeding, also entered on February 19, 1999, the Commission referred several issues from Case No. PUE970455 for consideration in this proceeding. Specifically, the Commission directed Columbia Gas to study the cost-effectiveness of converting its Metered Propane Service ("MPS") customers to natural gas service and to consider the impact of such a conversion on its overall purchased gas costs as well as its non-gas requirements. Furthermore, the Commission directed consideration of continued recovery of the current subsidy for MPS. Accordingly, a Hearing Examiner's Ruling dated March 1, 1999, established a revised procedural schedule and set June 9, 1999, as the date for the evidentiary hearing.

On March 29, 1999, Columbia Gas filed a Motion for Leave to Amend Application for General Rate Increase. In its motion, the Company revealed its plans to introduce a new rate design for residential and small general service customers in which most non-gas costs would be recovered through fixed monthly charges rather than through volumetric charges. Columbia Gas claimed that its proposed new rate design would be revenue neutral by customer class and was necessary to promote retail natural gas service unbundling and competition. The Company planned to have its proposed new rate design become effective on January 1, 2000. A Hearing Examiner's Ruling dated April 8, 1999, granted Columbia Gas leave to amend its application and directed the Company to publish notice of its new rate proposal once a week for two consecutive weeks beginning on April 12, 1999, in newspapers of general circulation in its service territory.

On April 16, 1999, Columbia Gas filed its amended application and supplemental direct testimony. On April 28, 1999, the Staff filed a Motion for Bifurcation of Hearing and Changes in Procedural Schedule in which it asked for a second hearing date to hear evidence on the proposed new rate design of Columbia Gas and any accompanying rate of return issues. A Hearing Examiner's Ruling dated April 29, 1999, granted Staff's request and established July 19, 1999, as the date for the evidentiary hearing on the Company's proposed new rate design and any accompanying rate of return issues. The ruling also established additional procedural dates associated with the July 19 hearing and set dates for the filing of notices of protests by interested parties that had not intervened previously in this case.

On April 29, 1999, Roanoke Gas Company ("Roanoke Gas") filed a Notice of Protest in the case to ensure that any precedents that may be set in this case concerning unbundling and rate design of a competitive energy market also will be appropriate for smaller utilities and for Southwest Virginia.

On June 9 and 10, 1999, and July 19 and 20, 1999, hearings were convened as scheduled for receiving evidence. Representing Columbia Gas at the hearings were Edward L. Flippen, Esquire, and Kodwo Ghartey-Tagoe, Esquire. Louis R. Monacell, Esquire, appeared on behalf of the Industrial Protestants; Michael J. Quinan, Esquire, appeared on behalf of Roanoke Gas; and Raymond L. Doggett, Jr., Esquire, and John F. Dudley, Esquire,[2] appeared on behalf of the Attorney General. Wayne N. Smith, Esquire, Alison L. Held, Esquire, and M. Renae Carter, Esquire, represented the Staff. Filed with this Report are transcripts from each of the hearings.

SUMMARY OF THE RECORD

In its original application, Columbia Gas claimed that during the test year ending December 31, 1997, it experienced a revenue deficiency of approximately $13.8 million.[3] Thus, in this case the Company sought to recover its calculated revenue deficiency, subject to adjustment for additional revenues granted by the Commission in Case No. PUE970455.[4] On February 19, 1999, the Commission issued its Final Order in Case No. PUE970455 in which it granted Columbia Gas an annual increase of about $4.6 million.[5] Consequently, the rates filed by Columbia Gas in this case, and placed into effect subject to refund, represent an increase in annual revenues of approximately $9.2 million.[6]

Columbia Gas supported its initial application with the direct testimony of eight witnesses. Janis L. Hannuksela, director of finance and strategic planning for Columbia Gas, presented the Company's general approach to this case and addressed capital structure and affiliate transactions.[7] Robert E. Horner, manager of regulatory services, testified concerning revenue apportionment and rate design.[8] James F. Racher, team leader, regulatory, sponsored most of the Company's accounting exhibits and revenue requirement calculations.[9] John E. Skirtich, function leader for shared services-finance and regulatory, developed the Company's rate base and cost

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[2] Mr. Dudley appeared only during the hearings held on July 19 and 20, 1999.
[3] Exhibit Company-1, at ¶4; Exhibit REH-8, at 3.
[4] *Id.*
[5] *Application of Columbia Gas of Virginia, Inc. (Formerly Commonwealth Gas Services, Inc.) for general increase in natural gas rates and approval of performance-based rate regulation methodology pursuant to § 56-235.6 of the Code of Virginia*, Case No. PUE970455, Final Order at 19 (February 19, 1999).
[6] Exhibit Company-2, at ¶ 8. Note: $9.2 million is derived by subtracting $4,607,122 from $13,801,444.
[7] Exhibit JLH-6.
[8] Exhibit REH-8.
[9] Exhibit Company-5; Exhibit JFR-24.

allocation studies.[10] Dan Furlano, controller of Columbia Energy Group Service Corporation ("Service Corporation"), explained the services and related charges Columbia Gas received from its affiliated Service Corporation.[11] Jeffrey T. Gore, team leader-support services, supported the Company's affiliate charges.[12] Dr. James R. Haltiner, professor of Business Administration and director of the MBA Program at the College of William and Mary, estimated a fair rate of return for Columbia Gas.[13] Arthur J. Rifflard, function leader-taxes for shared services, developed the federal income taxes included in the Company's cost of service.[14]

On December 4, 1998, the Staff filed its initial testimonies and exhibits. Richard W. Taylor, manager of audits for the Division of Public Utility Accounting, provided several accounting adjustments and Staff's overall calculation of the Company's revenue requirements.[15] Based on the midpoint of Staff's recommended range of return on equity of 10.20%, Mr. Taylor calculated the test-year revenue deficiency of Columbia Gas to be about $3.1 million as opposed to the Company's $13.8 million.[16] Robert F. Sartelle, senior accountant in the Division of Public Utility Accounting, presented Staff's findings regarding cash working capital, income tax expense, and consolidated tax savings.[17] John R. Ballsrud, senior financial analyst with the Division of Economics and Finance, addressed issues related to the appropriate capital structure, cost of equity, and overall cost of capital for Columbia Gas.[18] John A. Stevens, utilities engineer with the Division of Energy Regulation, presented his analysis of the Company's jurisdictional separation study, class cost of service studies, class revenue apportionment and rate design, including modifications to the Company's Special Service Charges.[19] Finally, Thomas E. Lamm, assistant director of the Division of Energy Regulation, recommended that Columbia Gas begin reading meters on a monthly, rather than bimonthly, basis.[20] Mr. Lamm also expressed Staff's concern regarding the length of time it sometimes takes Columbia Gas to reconnect customers that have been involuntarily disconnected after such customers fulfill their obligations to the Company.[21]

On April 16, 1999, Columbia Gas filed its Amended Application.[22] The Amended Application reflected the Commission's Final Order in Case No. PUE970455, addressed issues related to the Company's MPS Schedule, as specifically directed by the Commission, and presented the Company's proposed new rate design for residential and small commercial

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[10] Exhibit JES-11.
[11] Exhibit DF-12.
[12] During the June 9, 1999, hearing, Mr. Gore's direct testimony was adopted and sponsored by June M. Konold, Exhibit JMK-13; Exhibit JMK-14.
[13] Exhibit JRH-45.
[14] Exhibit AJR-15.
[15] Exhibit RWT-25.
[16] *Id.* at 16; Exhibit RWT-25, at Statement IV.
[17] Exhibit RFS-31.
[18] Exhibit JRB-52.
[19] Exhibit JAS-16.
[20] Exhibit TEL-18.
[21] *Id.* at 7-8.
[22] Exhibit Company-2.

customers. In support of its Amended Application, Columbia Gas filed the testimony of five witnesses. The supplemental testimony of Janis Hannuksela explained that the purpose of the Company's proposed change in rate design is to give customers a clearer delineation between the cost of gas and the cost of providing energy services.[23] Ms. Hannuksela's supplemental testimony also contained a copy of a study performed by Theodore Barry and Associates ("TBA") concerning the cost of affiliate services.[24] In its testimony, Staff proposed an adjustment to eliminate the cost of the TBA study.[25]

Two other testimonies filed by Columbia Gas in support of its Amended Application dealt with MPS issues. Kimberly N. Greenwood, financial/rate analyst, sponsored the Company's study concerning the cost-effectiveness of converting its remaining MPS customers to natural gas service.[26] This study showed that the conversion of all MPS customers to natural gas service would produce a net increase in revenue requirements of $462,361.[27] Thus, Ms. Greenwood recommended that Columbia Gas should be permitted to continue to recover the total cost of propane provided under the MPS rate schedule through its purchased gas cost.[28] Andrew N. Watson, interim manager of engineering and facility planning, offered further support for the capital and operating costs associated with converting the remaining MPS customers to natural gas service.[29]

The final two testimonies filed by Columbia Gas in support of its Amended Application addressed issues related to the Company's proposal to revise its rate design for residential and small general service customers to recover most non-gas costs through fixed monthly charges, rather than through volumetric charges. Laura Bateman, vice president of public affairs, presented the Company's plans for customer education, information and communications in relation to implementation of its proposed change in rate design.[30] Catharine M. Lacy, an independent energy consultant, described the derivation of the Company's proposed new rate design.[31] More specifically, Ms. Lacy described the Company's attempts to mitigate large increases and large decreases in annual bills associated with changing the rate design for residential and small general service customers.[32]

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[23] Exhibit JLH-7.
[24] *Id.* at 7; Exhibit JLH-7, Schedule JLH-2.
[25] Exhibit RWT-25, at 14-15.
[26] Exhibit KNG-9.
[27] *Id.* at 6.
[28] *Id.*
[29] During the June 9, 1999, hearing, Mr. Watson's testimony was adopted and sponsored by Larry A. Garrett, Exhibit LAG-10; Exhibit LAG-23.
[30] Exhibit LMB-44.
[31] Exhibit CML-42.
[32] *Id.*

On April 30, 1999, Roanoke Gas filed the direct testimony of Dale P. Moore, director of rates, regulatory affairs, and financial planning for Roanoke Gas. Ms. Moore addressed issues relating to unbundling, competition, and rate design.[33]

On May 21, 1999, Staff filed supplemental testimony to update its revenue requirement calculations to reflect the Commission's Final Order in Case No. PUE970455, and to address MPS issues as directed by the Commission. The Staff, through its supplemental testimony, also responded to several issues raised by Columbia Gas in its Amended Application. Because of the bifurcation of the case, the Staff did not respond to the Company's proposed change in rate design in its supplemental testimony filed on May 21, 1999.

The supplemental testimony of Richard Taylor contained a recalculation of revenue requirements for Columbia Gas in light of the Commission's Final Order in Case No. PUE970455. According to Mr. Taylor, based on Staff's recommended 10.20% return on equity and the Commission's decision in Case No. PUE970455, Columbia Gas required an increase in annual revenues of $869,860.[34] In addition, Mr. Taylor questioned whether Columbia Gas had meet its burden of proving that the amount paid to TBA was prudent and in the public interest.[35] Finally, Mr. Taylor recommended that the Company's MPS study be amended to treat operation and maintenance expenses associated with converting MPS customers to natural gas service as a regulatory asset subject to an earnings test.[36]

Similar to his direct testimony, Robert Sartelle calculated Staff's recommended cash working capital and income tax expense for Columbia Gas.[37] However, based on the Commission's Final Order in Case No. PUE970455, Mr. Sartelle no longer offered a consolidated tax savings adjustment in this case.[38]

The final Staff witness, John Stevens, addressed MPS issues and offered several adjustments to the Company's study concerning the cost-effectiveness of converting its remaining MPS customers to natural gas service. In Staff's study, Mr. Stevens calculated the net revenue requirement impact of converting all remaining MPS customers to natural gas over a ten-year period.[39] By contrast, Columbia Gas examined only one year in its study.[40] Other adjustments offered by Mr. Stevens included a five-year amortization of the Company-estimated $528,300 in maintenance expenses associated with converting all remaining MPS customers to natural gas, and a reduction of $11,368 in gross receipts taxes due to the reduction in purchased gas costs and revenues.[41] With these adjustments, Mr. Stevens showed a net savings in revenue requirements

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[33] Exhibit DPM-49.
[34] Exhibit RWT-26, at 4.
[35] *Id.* at 2-3.
[36] *Id.* at 3.
[37] Exhibit RFS-32.
[38] *Id.*
[39] Exhibit JAS-17, at 5-6; Attachment JAS-9.
[40] Exhibit KNG-9, Schedule KNG-1.
[41] Exhibit JAS-17, at 4-5.

over the ten-year period with the conversion of all remaining MPS customers.[42] Based on his analysis of the Company's study, Mr. Stevens recommended that Columbia Gas file a more detailed study.[43] In addition, Mr. Stevens recommended that the Company no longer be permitted to recover the MPS subsidy from its customers.[44]

On June 2, 1999, Columbia Gas filed rebuttal testimony for ten witnesses. Janis Hannuksela responded to the Staff's concerns regarding restructuring and the prudence of the TBA study.[45] Dan Furlano supported the relocation costs associated with the move of the corporate headquarters of Columbia Energy Group ("CEG") from Wilmington, Delaware to Herndon, Virginia.[46] Richard F. James, general manager of information technology for Columbia Gas of Ohio, Inc., discussed the reorganization process and resultant cost savings.[47] James F. Racher replied to the Staff's proposed adjustment to uncollectible expense. Arthur Rifflard disagreed with Staff's recommendation to flow through any of the tax benefits associated with the exercise of nonqualified stock options.[48] June M. Konold, team leader-support services, adopted the direct testimony of Jeffrey Gore regarding the Company's affiliate charges.[49] Robert Horner rebutted the Staff's recommendations concerning the requirement to read meters monthly, the Company's reconnection policy, rate treatment for the Company's seven-point inspection service, and the allocation of depreciation reserve.[50] Dr. James Haltiner updated his cost of capital analysis, changing his cost of equity capital from a range of 10.5% to 11.3%, to a range of 10.4% to 11.4%.[51] Dr. Haltiner's rebuttal testimony also addressed the cost of equity and capital structure recommendations proposed by Staff witness Ballsrud.[52]

The final two rebuttal testimonies filed by Columbia Gas on June 2, 1999, addressed issues related to MPS. Larry A. Garrett, manager of consulting engineering, adopted and sponsored the direct testimony of Andrew Watson and offered rebuttal testimony to the recommendations of Staff witness Stevens for the conversion of the remaining MPS customers to natural gas service.[53] With two exceptions, Mr. Garrett disagreed with Mr. Stevens' recommendation to convert immediately at least 75% of the remaining MPS customers to natural gas service.[54] Kimberly Greenwood provided a revised study of the cost and benefits of converting the remaining MPS customers.[55] In the Company's revised study, Ms. Greenwood incorporates Staff's

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[42] *Id.* at 8.
[43] *Id.* at 9-10.
[44] *Id.* at 10-11.
[45] Exhibit JLH-34.
[46] Exhibit DF-35.
[47] Exhibit RFJ-36.
[48] Exhibit AJR-33.
[49] Exhibit JMK-13; Exhibit JMK-14.
[50] Exhibit REH-20.
[51] Exhibit JRH-72, at 1-2.
[52] Exhibit JRH-72.
[53] Exhibit LAG-23.
[54] *Id.* at 2-3.
[55] Exhibit KNG-22.

recommendations and expands the study to cover a ten-year period and utilizes a five-year amortization for maintenance expenses.[56] Further, Ms. Greenwood testifies that Staff's adjustment for gross receipts tax is unnecessary.[57] Ms. Greenwood offers a further refinement to Staff's estimate for purchase gas costs and adjusts for upstream demand costs.[58] Based on its revised study, Columbia Gas continues to maintain that it is not cost-effective to convert the remaining MPS customers.[59]

During the evidentiary hearing held on June 9 and 10, 1999, the Company and Staff narrowed their differences. For example, Columbia Gas and the Staff agreed that the Company would begin monthly meter reading of all residential and small general service customers, with Columbia Gas recovering any added costs of up to $0.25 per bill.[60] In addition, Staff accepted the Company's adjustment to remove the costs of the Seven Point inspection program from revenue requirements,[61] as well as the Company's testimony regarding restructuring charges and the costs of the TBA study.[62]

On June 30, 1999, Staff, Roanoke Gas, and the Attorney General filed supplemental testimony addressing the Company's proposed new rate design for residential and small general service customers. Generally, Staff and the Attorney General recommended that the Commission reject the proposed new rate design. In the alternative, if the Commission decided to adopt the Company's proposed rate design, Staff and the Attorney General recommended a further reduction to the cost of equity for Columbia Gas.

Staff filed the supplemental testimony of John Stevens and John Ballsrud. Also, Staff filed updated revenue requirement and supporting schedules prepared by Staff witness Taylor, which reflected Staff's recommendations as of June 30, 1999.[63] These revised schedules showed that Staff recommended an increase in annual revenues of $3,639,715.[64]

Mr. Stevens disputed the Company's reasons for changing its rate design. Specifically, Mr. Stevens stated "that the Company's current bill format already provides customers with a clear distinction between their delivery charges and gas supply costs."[65] Also, Mr. Stevens observed that by levelizing non-gas costs throughout the year, Columbia Gas would shift energy costs from winter months to summer months.[66] This could have a destabilizing effect on heating

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[56] *Id.* at 2-3.
[57] *Id.* at 3.
[58] *Id.* at 4-6.
[59] *Id.* at Exhibit KNG-5.
[60] Lamm, Tr. at 85-86; Horner, Tr. at 96-97.
[61] Stevens, Tr. at 65 and 81.
[62] Taylor, Tr. at 124, 126, 132 and 142.
[63] Exhibit RWT-28.
[64] *Id.* at Taylor Statement II, Revised.
[65] Exhibit JAS-46, at 4.
[66] *Id.* at 4-5.

customers already paying higher summer air conditioning bills.[67] Moreover, Mr. Stevens found that the Company's proposed change in rate design failed to satisfy generally accepted rate design criteria of public acceptability and stability of the rates themselves.[68] In particular, after calculating the impact of the change in rates at various levels of consumption, Mr. Stevens found that all of the Company's lower usage and some of its higher usage customers would be suddenly and adversely affected by the proposed change in rate design.[69]

Mr. Ballsrud, in his supplemental testimony, updated his cost of capital recommendations and assessed the impact the Company's proposed change in rate design, if adopted, would have on risk and return on equity of Columbia Gas.[70] Based on current financial conditions, Mr. Ballsrud raised his recommended cost of equity range by 50 basis points to 10.20% to 11.20%.[71] In addition, Mr. Ballsrud conducted several studies that showed that adoption of the Company's proposed rate design would lower the financial and business risk of Columbia Gas and would serve to increase earned rates of return significantly over an extended period.[72] Consequently, Mr. Ballsrud recommended that if the Commission adopts the Company's rate design proposal, the return on equity for Columbia Gas should by lowered by 50 basis points, or to a range of 9.70% to 10.70%.[73]

Roanoke Gas filed the supplemental testimony of Dale P. Moore. Ms. Moore did not address the specifics of the Columbia Gas rate design proposal.[74] Instead, Ms. Moore provided insights into the changing nature of the natural gas industry and the need for the matching of fixed costs with fixed rates and the matching of variable costs with variable rates.[75]

The Attorney General filed the direct testimony of two witnesses, Glenn A. Watkins, principal senior economist with Technical Associates, Inc., and David C. Parcell, executive vice president and senior economist for Technical Associates, Inc. In his testimony, Mr. Watkins opposed adoption of the Company's proposed new rate design.[76] Mr. Watkins attacked the Company's proposed rate design on several fronts. For example, Mr. Watkins found that the proposed rate design would increase consumption during periods of high demand, which ultimately would lead to increased costs for customers.[77] Mr. Watkins also faulted the Company's proposal for being unduly discriminatory to customers within the residential and small general service rate classes and for its inconsistency with how Columbia Gas incurs costs to serve

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[67] *Id.*
[68] *Id.* at 6.
[69] *Id.* at 7-9.
[70] Exhibit JRB-52.
[71] *Id.* at 2-3.
[72] *Id.* at 2-16.
[73] *Id.*
[74] Exhibit DPM-50.
[75] *Id.*
[76] Exhibit GAW-58, at 2.
[77] *Id.* at 2, 7.

these customers.[78] Further, Mr. Watkins points out some foreseeable administrative problems related to shifting customers from volumetric rates to fixed charges.[79] Finally, based in part on Mr. Parcell's cost of equity finding, Mr. Watkins concluded that if the Commission were to adopt the Company's proposed rate design, in the future, for cost allocation and class revenue responsibility purposes, the rates of return for the residential and small general service customer classes should be lower than the system average.[80]

Mr. Parcell presented his assessment of the Company's current cost of equity. Based on his analyses, Mr. Parcell found the Company's cost of equity to be within the range of 10% to 11%.[81] Mr. Parcell further recommended that if the Commission adopts the Company's proposed rate design, that it also should reduce the Company's cost of equity by 75 basis points or 0.75%.[82]

On July 9, 1999, Columbia Gas filed the rebuttal testimony of four witnesses: Catharine Lacy, Robert E. Horner, Michael Anderson, and Dr. James R. Haltiner. Ms. Lacy rebutted the testimonies of Messrs. Stevens and Watkins.[83] Ms. Lacy maintained that the Company's proposed rate design meets the criteria of a sound rate structure as the proposed rates provide a clearer distinction between non-gas and gas costs, are easily understood, and increase rate stability and predictability for customers.[84] Ms. Lacy further contended that the Company's proposed rate design would encourage efficient use of utility services and is consistent with how Columbia Gas incurs cost.[85] Ms. Lacy disagreed with several other characterizations of the Company's proposed rate design made by the Staff and the Attorney General including assessments that the change in rate design would cause rate shock for some customers.[86]

Mr. Horner took issue with Mr. Ballsrud's assessment of the Company's proposed rate design on future revenue growth and earnings.[87] Mr. Horner attempted to demonstrate flaws in the models Mr. Ballsrud constructed from information supplied by Columbia Gas.[88] Mr. Horner also argued that alternative models show that the change in rate design would have a minimal, if any, effect on revenues and earnings over time.[89] Furthermore, Mr. Horner disagreed with Mr. Watkins' contention that if the Company's proposal is adopted, residential and small general service customer classes should have lower than average system-wide rates of return.[90] He

[78] *Id.* at 2, 8-11.
[79] *Id.* at 2, 11-16.
[80] *Id.* at 17-18.
[81] Exhibit DCP-59, at 4, 53.
[82] *Id.* at 4, 53-54.
[83] Exhibit CML-62, at 1.
[84] *Id.* at 2-4.
[85] *Id.* at 4-7.
[86] *Id.* at 7-10.
[87] Exhibit REH-68, at 1-8.
[88] *Id.*
[89] *Id.*
[90] *Id.* at 9-10.

argued that even with the proposed rate design, Columbia Gas will continue to face risks in serving these customers.[91]

Michael D. Anderson, director—supply planning for the shared services unit located in Columbus, Ohio, offered rebuttal testimony to Messrs. Ballsrud and Parcell.[92] Both of these witnesses use the adoption of Straight Fixed Variable ("SFV") for interstate pipeline companies in their analyses of the impact that adoption of the Company's proposed rate design would have on the cost of equity.[93] However, Mr. Anderson attributes changes in the cost of capital of interstate pipeline companies to other factors, such as the elimination of their merchant functions.[94]

Finally, Dr. Haltiner argued that adoption of the Company's proposed rate design should not affect the long-term average income of Columbia Gas.[95] Therefore, Dr. Haltiner recommended against any adjustment to the cost of equity of Columbia Gas related to adoption of the Company's proposed rate design.[96] In any event, Dr. Haltiner criticized the procedures and results offered by Mr. Ballsrud and Mr. Parcell as being "unsupported by empirical evidence or by academic theory, and much too simplistic in nature."[97]

On July 16, 1999, counsel for Columbia Gas filed an executed Stipulation and Recommendation ("Stipulation").[98] The Stipulation provides for an increase in annual revenues of "$3.9 million plus $516,000 for a $0.25 increase in the customer charge to cover the cost of monthly meter reading."[99] Although the parties to the Stipulation were able to agree to an overall increase in revenues, the Stipulation does not arrive at this increase by an explicit resolution of all of the underlying accounting issues. Thus, the parties offer the Stipulation as a "black-box," with no specific resolution proposed for uncollectible expenses, the tax effect of exercised stock options, and the expense of the TBA study.[100] Nonetheless, the Stipulation specifies that the return on common equity range will remain 10.65% to 11.65%, subject to a potential adjustment

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[91] *Id.*
[92] Exhibit MDA-71.
[93] *Id.*
[94] *Id.*
[95] Exhibit JRH-73.
[96] *Id.*
[97] *Id.* at 2.
[98] A copy of the Stipulation is attached to this report as Attachment I.
[99] Stipulation at ¶ 1 A. Note, this paragraph further provides:

> The $0.25 charge is the maximum charge; if the Company enters into a contract for meter reading services that results in a cost of less than $0.25 per customer, the charge will be reduced to the lesser amount. The $0.25 customer charge increase will take effect upon the Company's implementation of a new monthly reading contract, which shall be implemented no later than two months after the date a final order is issued in this case.

[100] Stipulation at ¶¶ 1 C, 1 E.

if Company's proposed flat rate design is adopted.[101] Moreover, the Stipulation provides that Columbia Gas will remove the cost of any MPS subsidy "from purchased gas adjustment filings commencing with the ACA Determination Period beginning September 1, 1999 and ending August 31, 2000."[102] Consequently, the Stipulation resolves all issues in this case with the exception of: (i) the Company's proposed new rate design for residential and small general service customers, and (ii) the impact adoption of the Company's proposed rate design would have on the cost of equity of Columbia Gas.

Columbia Gas and Staff signed the Stipulation.[103] Further, the Stipulation indicated that Roanoke Gas, Industrial Protestants, and the Attorney General did not object to the Stipulation except that the Attorney General took no position on the provisions of paragraphs 1 F, 1 G, and 1 H.[104] During the evidentiary hearings, held July 19 and 20, 1999, counsel for each of the parties affirmed the representations of the Stipulation.[105]

DISCUSSION

The Stipulation, jointly offered by the Company and the Staff, offers a reasonable and just resolution to all revenue requirement, cost of capital (other than the effect on the cost of equity of adoption of the Company's proposed rate design), and revenue apportionment issues. The Stipulation is supported by the record and should be adopted.

As to the "black-box" nature of the Stipulation, on brief, both Columbia Gas and Staff pointed to examples where this type of settlement has been accepted.[106] In this case, the unresolved revenue requirement issues fail to produce significantly different results. Increasing operating revenues by $3.9 million produces an adjusted return on equity of between 10.66% to 10.82%, depending upon whether the Company or Staff's accounting adjustments are used for the determination of the cost of service.[107] Consequently, the annual revenue increase provided by the Stipulation produces a return on equity within the reasonable range regardless of whether the Company or Staff's proposals are used for uncollectible expense, the tax effect of exercised stock options, or the treatment of the cost of the TBA study. Therefore, even with three accounting issues unresolved, it is possible in this case to make a finding that rates designed to increase operating revenues by $3.9 million are just and reasonable.

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[101] *Id.* at ¶ 1 B.
[102] *Id.* at ¶ 1 F.
[103] *Id.* at 4.
[104] *Id.* at ¶ 5.
[105] Flippen, Tr. at 215-16; Quinan, Tr. at 218; Monacell, Tr. at 218-19; Doggett, Tr. at 219-20.
[106] Company Brief at 8, n.8 (citing to *Virginia Electric and Power Co., 1995 Annual Informational Filing and Commonwealth of Virginia, At the relation of the State Corporation Commission, Ex Parte: Investigation of Electric Utility Industry Restructuring – Virginia Electric and Power Co.*, Case Nos. PUE960036 and PUE960296, 1998 S.C.C. Ann. Rep. 322); Staff Brief at 6-7.
[107] Exhibit Company-57.

The only issues that are in controversy and warrant further discussion concern the Company's proposed new rate design for residential and small commercial customers and the impact adoption of such a rate design would have on the Company's cost of equity. Each of these issues is discussed in detail below.

Company's Proposed New Rate Design

Currently, Columbia Gas collects the following monthly base non-gas rates from its residential and small commercial customers:[108]

Residential

Customer Charge	$ 10.00 – per customer
First 5 Mcf	$ 3.656 – per Mcf
Next 45 Mcf	$ 3.548 – per Mcf
Over 50 Mcf	$ 3.390 – per Mcf

Small General Service

Customer Charge	$ 20.00 – per customer
First 20 Mcf	$ 2.201 – per Mcf
Next 80 Mcf	$ 2.051 – per Mcf
Next 900 Mcf	$ 2.012 – per Mcf
Next 1500 Mcf	$ 1.938 – per Mcf
Over 2500 Mcf	$ 1.901 – per Mcf

Based on its original application, Columbia Gas seeks to implement the following monthly rate structure:[109]

Residential Non-Heating:

Less than or equal to 60 Mcf Annual Usage:

Customer Charge	$ 10.00 – per customer
All Mcf	$ 3.656 – per Mcf

More than 60 Mcf Annual Usage, but less than or equal to 150 Mcf Annual Usage:

Distribution Charge	$ 32.00 – per customer

[108] Exhibit CML-42 at Schedule No. 1. Furthermore, the rates shown are based on the Company's original application. These rates have not been reduced to reflect the Commission's Final Order in Case No. PUE970455 and the Stipulation. *See*, Company Brief at 10, n.10.
[109] *Id.*

More than 150 Mcf Annual Usage:

Distribution Charge	$ 67.45 – per customer

Residential Heating:

Less than or equal to 150 Mcf Annual Usage:

Distribution Charge	$ 32.00 – per customer

More than 150 Mcf Annual Usage:

Distribution Charge	$ 67.45 – per customer

Small General Service:

Less than or equal to 150 Mcf Annual Usage:

Distribution Charge	$ 32.00 – per customer

More than 150 Mcf Annual Usage:

Distribution Charge	$ 32.00 – per customer
All Mcf	$ 1.871 – per Mcf

Generally, the Company's proposed change in rate design shifts the basis for the recovery of the Company's non-gas cost of service from volumetric to fixed monthly charges. Though the Company, Staff, and the Attorney General loosely describe the Company's proposed new rate design as having "flat" or "fixed" structure, the proposed new rate structure is neither completely "flat" nor purely "fixed." Columbia Gas will continue to recover gas costs on a volumetric or per Mcf basis.[110] The Company also will continue to collect a portion of its non-gas costs on a volumetric basis. As shown above, Company's proposed rate design includes volumetric rates for non-heating residential customers with annual usage of 60 Mcf or less, and for small general service customers with annual usage greater than 150 Mcf.

Moreover, residential customers with annual usage of between 140 and 160 Mcf may see their monthly charge vary between $32 per month and $67.45 per month depending upon their actual weather-adjusted usage.[111] Residential customers with annual usage equal to or below 150

[110] Exhibit CML-62, at 1-2.

[111] For ease of comparisons and to avoid confusion, the specific rates used are those originally requested by the Company. If the Company's proposed new rate design is adopted, actual rates

Mcf will pay $32 per month and customers with annual usage greater than 150 Mcf will pay $67.45 per month. However, usage levels will be calculated annually, with actual usage adjusted for weather.[112] Customers whose usage falls within a five percent "margin of tolerance" will not be moved into a higher rate classification.[113] Nonetheless, customers with annual usage near the 150 Mcf cutoff may experience year-to-year fluctuations in their "fixed" monthly non-gas charges.

Columbia Gas structured its proposed new rates to be revenue neutral on a customer class basis.[114] Nonetheless, even the Company recognizes "that it is impossible to change rate designs comprehensively without dramatically changing the cost responsibility of some customers . . . ."[115] Under the Company's proposed new rate design, most customers would see a shift in their month-to-month gas utility bills, with the bills declining for the winter months and increasing throughout the remainder of the year.[116] Moreover, customer bills would also vary on an annual basis between the existing and the proposed rate design. Generally, customers whose usage falls into the lower ranges of each proposed rate classification will experience higher annual bills, while customers with higher usage within each rate classification would see a reduction in their annual gas utility bills.[117]

Staff witness Stevens documents this pattern in a series of attachments to his Supplemental Testimony filed on June 30, 1999.[118] For example, for residential heating customers with annual usage falling into the less than or equal to 150 Mcf rate, customers with annual usage of 0 – 10 Mcf would experience an annual increase of $227.43, or 145.3%, in non-gas charges, under the proposed rate structure.[119] As annual Mcf usage increases, the size of the annual increase associated with the proposed rate structure declines, producing a net saving of $23.61, or

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will be lower, reflecting the lower revenue requirements resulting from the Commission's Final Order in Case No. PUE970455 and the Stipulation in this case.

[112] The proposed tariff language to implement this annual rate determination is as follows:

The Company will determine the Customer's usage classification annually during the July billing cycle based on the previous twelve months' usage, adjusted for normal weather. In the event the annual determination results in a change to the customer's usage classification, the customer will be reclassified on a prospective basis; provided, however, that a customer will not be reclassified to a less favorable rate classification in the event that the customer's usage is within five percent of the usage threshold giving rise to the reclassification. When no usage history is available, the Company will estimate annual usage. Exhibit CML-42, at 10.

[113] Exhibit CML-42, at 10.

[114] *Id.* at 3.

[115] Company Brief at 4.

[116] Exhibit CML-42, Schedule Nos. 3 and 5.

[117] Exhibit JAS-46, Attachments JAS-11 though JAS-13.

[118] *Id.*

[119] *Id.* Attachment JAS-11, page 1. If the Company's proposed new rate design is adopted, actual rates will be lower, reflecting the lower revenue requirements resulting from the Commission's Final Order in Case No. PUE970455 and the Stipulation in this case. Also, this would reduce the differences between the current and proposed rate structures.

5.8%, with annual usage in the 70.1 – 80 Mcf range.[120] Continuing the pattern, the largest savings in this rate category is found in its highest annual usage range of 125.1 – 150. As shown by Mr. Stevens, customers with this level of annual usage would enjoy annual savings under the new rate design of $271.39, or 41.4%.[121]

In the residential heating rate category for annual usage greater than 150 Mcf, the pattern repeats itself. The lowest level of usage in this category, or 150.1 – 160 Mcf, shows that customers in this range of usage will experience an annual increase under the new rate design of $117.44, or 17%.[122] The highest savings under the new rates occurs at the highest level of usage, with one customer with annual usage between 2,000.1 – 4,500 saving $14,543.77, or 94.7%.[123]

During the hearing and on brief, Columbia Gas criticized the analysis presented by Mr. Stevens for overstating the impact of increases to customers with low annual usage.[124] Indeed, Company witness Lacy testified that most of the low-usage customers shown in Mr. Stevens' analysis were misclassified partial-year customers, and that roughly 70% of the residential heating customers would benefit from the proposed change in rate design.[125] However, if the Company's proposed rate design is revenue neutral by customer class, then the total savings of residential customers benefiting from the change in rate design must equal the total increase of residential customers disadvantaged by the change in rate design. Thus, if, as Company witness Lacy testifies, a majority of residential customers benefit from the change in rate design, then the per customer level of increase for disadvantaged customers must be greater than the per customer savings for customers that benefit from the change in rate design, because the same level of increase is spread over a lower number of customers. Therefore, the analysis provided by Mr. Stevens serves as a useful illustration of which customers are likely to benefit or be disadvantaged by the Company's proposed change in rate design.

The Company ties its requested change in rate design to the advent of competition for the retail supply of natural gas.[126] That is, Columbia Gas avers that movement towards competition has exposed flaws in its current rate design. Chief among the flaws pointed to by the Company is the link between non-gas revenues and customer usage.[127] This tends to cause the Company's non-gas revenues to vary with the weather, with higher revenues being collected in the winter and during colder than normal years. Instead, Columbia Gas contends that its non-gas revenues should be tied to the cost to build and maintain the gas facilities used to serve its customers.[128] Further, Columbia Gas claims that its current rate design creates subsidies between customers

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[120] *Id.* Average annual usage for a residential heating customer is 79.06 Mcf.
[121] *Id.* Attachment JAS-11, page 1.
[122] *Id.*
[123] *Id.*
[124] Lacy, Tr. at 491-92; Company Brief at 21-22.
[125] Lacy, Tr. at 495.
[126] Company Brief at 1.
[127] *Id.*
[128] *Id.*

which are served by identical facilities but have different levels of gas consumption.[129] Finally, Columbia Gas maintains that its current rate design fails to provide accurate price signals to its customers.[130]

During the hearing, Columbia Gas accused parties opposed to its proposed change in rate design of being opposed to competition for the supply of natural gas.[131] However, the only direct link offered by the Company between its proposed change in rate design and competition was that its proposed rate design would give customers a clearer delineation between the commodity cost of gas and the delivery cost of gas.[132] But, as demonstrated by Staff witness Stevens, the Company's monthly bills to its customers for gas service already separately identify the commodity cost of gas and the delivery cost of gas.[133] Moreover, the movement towards competition is not limited to Virginia or to Columbia Gas. Yet, the Company is unable to provide one example of where a similar rate design has been adopted for any other utility in any other state.[134] Therefore, I find little or no connection between the Company's proposed rate design and competition. Consequently, the analysis of the Company's proposed rate design should focus on traditional ratemaking factors such as cost of service and customer acceptance.

Columbia Gas argues that its proposed rate design meets the attributes of a sound rate structure as outlined in James C. Bonbright's *Principles of Public Utility Rates*.[135] In fulfilling its statutory mandate to establish just and reasonable rates, the Commission has long recognized the need to balance the interests of the utility and its customers.[136] Moreover, when designing rates, the Commission often has weighed attributes[137] similar to those outlined by *Bonbright*.[138]

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[129] *Id.* at 2.
[130] *Id.* at 2-3
[131] Tr. at 444-47.
[132] Exhibit JLH-7, at 2; Hannuksela, Tr. at 236.
[133] Exhibit JAS-46, at 4, Appendix C; Stevens, Tr. at 281-82.
[134] Exhibit GAW-58, at 5-6, Schedule 2.
[135] James C. Bonbright, *et al.*, *Principles of Public Utility Rates* 377-88 (2d ed. 1988) ("*Bonbright*"); Company Brief at 13; Exhibit CML-42, at 2; Exhibit CML-62, at 3.
[136] *E.g.*, *Application of Virginia Natural Gas, Inc. For a general increase in rates*, Case No. PUE900028, 1991 S.C.C. Ann. Rep. 292.
[137] *See*, *E.g.*, *Application of Central Virginia Electric Cooperative For a general increase in rates*, Case No. PUE900032, 1990 S.C.C. Ann. Rep. 341; *Application of Virginia Natural Gas, Inc. For a general increase in rates*, Case No. PUE920031, 1993 S.C.C. Ann. Rep. 256; *Application of Virginia Electric and Power Company For a general increase in rates*, Case No. PUE920041, 1994 S.C.C. Ann. Rep. 319.
[138] The complete outline of desirable attributes provided by *Bonbright* is as follows: *Revenue-related Attributes*: 1. Effectiveness in yielding total revenue requirements under the fair-return standard without any socially undesirable expansion of the rate base or socially undesirable level of product quality and safety. 2. Revenue stability and predictability, with a minimum of unexpected changes seriously adverse to utility companies. 3. Stability and predictability of the rates themselves, with a minimum of unexpected changes seriously adverse to ratepayers and with a sense of historical continuity. (Compare "The best tax is an old tax.") *Cost-related Attributes*:

Roanoke Gas generally supports the Company's proposed rate design "to the extent that it better matches fixed costs with fixed rates and variable costs with variable rates."[139] However, Roanoke Gas cautioned that Columbia Gas does not address the issue of the recovery of fixed upstream pipeline capacity costs.[140] Roanoke Gas argues that the recovery of upstream pipeline capacity costs is a significant issue and should be addressed in a proceeding.[141]

In this case, Staff and the Attorney General oppose adoption of the Company's proposed rate design, contending that the Company's proposal fails many of the same attributes touted by Columbia Gas.[142] Specifically, Staff argues that the proposed rate design will subject low-usage residential customers, and some high-usage residential customers to a sudden and unexpected increase in cost, unacceptably undermining any sense of historical continuity and constituting rate shock.[143] Second, both Staff and the Attorney General contend that the Company's proposed rate design will discourage economically efficient consumption of natural gas.[144] Third, both Staff and the Attorney General claim that the Company's proposed rate design is discriminatory, failing to treat equals equally and unequals unequally.[145] Fourth, the Attorney General asserts that the

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4. Static efficiency of the rate classes and rate blocks in discouraging wasteful use of service while promoting all justified types and amounts of use: (a) in the control of the total amounts of service supplied by the company; and (b) in the control of the relative uses of alternative types of service by ratepayers (on-peak versus off-peak service or higher quality versus lower quality service). 5. Reflection of all of the present and future private and social costs and benefits occasioned by a service's provision (i.e., all internalities and externalities). 6. Fairness of the specific rates in the apportionment of total costs of service among the different ratepayers so as to avoid arbitrariness and capriciousness and to attain equity in three dimensions: (a) *horizontal* (i.e., equals treated equally); (b) *vertical* (i.e., unequals treated unequally); and (c) *anonymous* (i.e., no ratepayer's demands can be diverted away uneconomically from an incumbent by a potential entrant. 7. Avoidance of undue discrimination in rate relationships so as to be, if possible, compensatory (i.e., subsidy free with no intercustomer burdens). 8. Dynamic efficiency in promoting innovation and responding economically to changing demand and supply patterns. *Practical-related Attributes*: 9. The related, practical attributes of simplicity, certainty, convenience of payment, economy in collection, understandability, public acceptability, and feasibility of application. 10. Freedom from controversies as to proper interpretation. *Bonbright* at 383-84. Furthermore, *Bonbright* states that "the sequence in which the ten attributes are presented is not meant to suggest any order of importance. Moreover, there is, perforce, some inconsistency and redundancy in any such listing." *Id*. at 383.

[139] Roanoke Gas Brief at 2.

[140] *Id.*

[141] *Id.*

[142] Exhibit JAS-46, at 6-7; Exhibit GAW-58, at 7-14.

[143] Staff Brief at 16-17; Exhibit JAS-46, at 7-8; Stevens, Tr. at 273-74.

[144] Staff Brief at 17-18; Exhibit JAS-46, at 10-11; Attorney General Brief at 8; Exhibit GAW-58, at 7; Watkins, Tr. at 401-02, 422.

[145] Staff Brief at 17; Stevens, Tr. at 280, 305; Attorney General Brief at 9-11; Exhibit GAW-58, at 8-9; Watkins, Tr. at 401-03.

Company's proposed rate design fails to capture the way costs are incurred, creating undue discrimination in rate relationships.[146] Finally, the Attorney General questions different aspects of the practicality of the Company's proposed rate design, including the Company's plan to weather normalize each residential customer's usage annually to determine within which rate category the customer will be billed.[147]

Though Staff and the Attorney General oppose implementation of the Company's proposed rate design, both recognize that there are benefits associated with the Company's proposal. Indeed, both Staff and the Attorney General maintain that the Company's proposed rate design will stabilize revenues and reduce risks for Columbia Gas.[148] Both recommend that the cost of equity for Columbia Gas be lowered to reflect this reduction in risk.[149] Thus, following Staff and the Attorney General's recommendations, if the Company's proposed rate design is implemented by the Commission, the overall revenue requirement for Columbia Gas will be lower, which translates into relatively lower rates on average for customers. Therefore, the analysis of the Company's proposed rate design will focus first on the benefits associated with the proposal. Then, an examination will be made of each deficiency delineated by Staff and the Attorney General.

Benefits of the Company's Proposed Rate Design

All parties agree that the Company's proposed rate design will result in revenue stability for Columbia Gas.[150] In essence, the Company's proposal eliminates the significance of weather as a factor affecting non-gas revenues. Without weather impacting non-gas revenues, such revenues should remain constant on both a month-to-month and year-to-year basis. As discussed below, Columbia Gas, Staff, the Attorney General, and even Roanoke Gas disagree as to whether and to what extent the elimination of weather as a major influence on non-gas revenues has on assessing risk and determining the cost of equity. Nonetheless, from a rate design perspective, the added stability of the Company's proposed rate design is one of the attributes of a sound rate structure achieved by the Company's proposal.

Rate Shock and Customer Acceptance

As described above, most small residential heating customers, and those residential customers whose annual usage falls just above 150 Mcf, will experience increases in non-gas costs under the Company's proposed rate design.[151] Generally, the smaller the usage within each rate category, the larger the increase that will be caused by moving to the Company's proposed rate

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[146] Exhibit GAW-58, at 9-11; Watkins, Tr. at 412-13.
[147] Attorney General Brief at 11-13; Exhibit GAW-58, at 11-14; Watkins, Tr. at 405, 413-15.
[148] Staff Brief at 21-28; Exhibit JRB-52, at 10-16; Attorney General Brief at 16-20; Exhibit DCP-59, at 18-36.
[149] *Id.*
[150] Company Brief at 21; Exhibit CML-62, at 3-4; Exhibit JAS-46, at 5; Exhibit GAW-58, at 16-17.
[151] Exhibit JAS-46, at Attachment JAS-11, page 1.

design. The analysis prepared by Staff witness Stevens confirmed the general pattern of the effect of adopting the Company's proposed rate design.[152] Among other things, Mr. Stevens' analysis shows that of the Company's 154,884 residential heating customers, 76,428 will experience an increase in rates if the Company's proposed rate design is adopted.[153] For the 38,044 smallest residential heating customers Mr. Stevens shows the following:[154]

Usage Range	Number of Customers	Current Annual Non-Gas Charges	Proposed Annual Non-Gas Charges	Annual Non-Gas Increase	Percentage Increase
0 – 10 Mcf	2,891	$156.57	$384.00	$227.43	145.3%
10.1 – 20 Mcf	5,168	$193.14	$384.00	$190.86	98.8%
20.1 – 30 Mcf	7,458	$229.59	$384.00	$154.41	67.3%
30.1 – 40 Mcf	9,896	$266.45	$384.00	$117.55	44.1%
40.1 – 50 Mcf	12,631	$300.40	$384.00	$ 83.60	27.8%

Thus, for customers that would see their rates increased under the Company's proposed rate design, Mr. Stevens concluded that "the proposed rates will be unacceptable and are likely to result in 'rate shock,' creating confusion and anger among many of them."[155]

Furthermore, Mr. Stevens provided a recent example of customer dissatisfaction concerning the replacement of a volumetric rate with a flat rate by the Atlanta Gas Light Company ("Atlanta Gas").[156] In 1998, the Georgia Public Service Commission ("Georgia Commission") permitted Atlanta Gas to implement a fixed charge, in place of the traditional volumetric charge, for the demand component of purchased gas.[157] Based in part on negative customer reaction, the Georgia Commission recently re-instituted a volumetric charge for the demand component of purchased gas.[158]

Company witness Lacy argues that Mr. Stevens overstates the adverse impact of the Company's proposed rate design.[159] During the hearing, Ms. Lacy attempted to show that far fewer customers would be adversely affected by the Company's proposed rate design.[160] Ms. Lacy sponsored an exhibit that showed that most of the small residential customers included by Mr. Stevens in his analysis actually were part-year customers that were no longer active

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[152] *Id.* at Attachments JAS-11 through JAS-13.
[153] *Id.* at Attachment JAS-11, page 1.
[154] *Id.*
[155] *Id.* at 7.
[156] *Id.* at 8; Stevens, Tr. at 302.
[157] *Id.*
[158] Exhibit JAS-46, at 8-9; Exhibit CML-64.
[159] Exhibit CML-62, at 7-9; Lacy, Tr. at 489-95.
[160] Exhibit CML-65; Lacy, Tr. at 490.

customers.[161] According to Ms. Lacy, the non-active partial year customers account for the following number of small residential heating customers:

[161] *Id.*

(1) Usage Range	(2) Number of Customers - Staff[162]	(3) Number of Partial-Year Customers[163]	(4)=(2)-(3) Adjusted Number of Customers	(5) Annual Non-Gas Increase[164]	(6) Percentage Increase[165]
0 – 10 Mcf	2,891	2,555	336	$227.43	145.3%
10.1 – 20 Mcf	5,168	3,412	1,756	$190.86	98.8%
20.1 – 30 Mcf	7,458	3,417	4,041	$154.41	67.3%
30.1 – 40 Mcf	9,896	3,093	6,803	$117.55	44.1%
40.1 – 50 Mcf	12,631	2,791	9,840	$ 83.60	27.8%

Thus, Ms. Lacy would reduce the number of small residential heating customers from 38,044 to 22,776.[166] Ms. Lacy concluded that "there would only be a few customers that might be [adversely] affected."[167]

Ms. Lacy's claim that Mr. Stevens' analysis suffers from a "data problem," tends to raise more questions than it answers. If Columbia Gas has designed its rates to be revenue neutral, as claimed, then the total savings of all customers that benefit from the change in rate design must equal the total additional charges of all customers adversely affected. Consequently, if Ms. Lacy is correct in that there are fewer customers adversely affected, then it follows that the adverse affect on each customer must be greater. On the other hand, the "data problem" raised by Ms. Lacy, indicates that Columbia Gas may have failed to design its rates to be revenue neutral. This creates the possibility that a rate design may be adopted in this case based on an erroneous presentation that most customers will experience savings, only to have the Company return to increase rates to correct for its rate design errors. Either way, Ms. Lacy's "data problems" fail to change significantly the basic fact that a substantial number of small residential customers will be affected adversely.

Columbia Gas further faults Mr. Stevens for failing to consider other factors that will serve to mitigate the impact of the Company's proposed rate design. Specifically, the Company faults Mr. Stevens for failing to consider that all customers' rates will be lower if the stipulated revenue requirement is adopted by the Commission.[168] Ms. Lacy testified during the hearing that if the stipulated revenue requirement is adopted, then the Company's proposed monthly rates for residential customers would be reduced: (i) from $32.00 to $30.00 for residential heating customers with annual usage less than or equal to 150 Mcf, and (ii) from $67.45 to $63.26 for residential heating customers with annual usage greater than 150 Mcf.[169] Nonetheless, despite

[162] Exhibit JAS-46, at Attachment JAS-11, page 1.
[163] Exhibit CML-65.
[164] Exhibit JAS-46, at Attachment JAS-11, page 1.
[165] *Id.*
[166] Total of Column 4. (Sum of: 336 + 1,756 + 4,041 + 6,803 + 9,840.)
[167] Lacy, Tr. at 492.
[168] Exhibit CML-62, at 8; Company Brief at 23.
[169] Lacy, Tr. at 510-11.

this overall reduction in revenue requirements, a comparison between current interim rates and the Company's proposed rate design shows that small residential heating customers still would experience significant annual increases:

(1) Usage Range	(2) Current Annual Non-Gas Charges	(3) Proposed Annual Non-Gas Charges[170]	(4)=(3)-(2) Annual Non-Gas Increase	(5)=(4)/(2) Percentage Increase
0 – 10 Mcf	$156.57	$360.00	$203.43	129.9%
10.1 – 20 Mcf	$193.14	$360.00	$166.86	86.4%
20.1 – 30 Mcf	$229.59	$360.00	$130.41	56.8%
30.1 – 40 Mcf	$266.45	$360.00	$ 93.55	35.1%
40.1 – 50 Mcf	$300.40	$360.00	$ 59.60	19.8%

In addition, the Company argues that Mr. Stevens fails to consider that if the Company implements the change in rate design in January, most customers will see their monthly heating season bills decline.[171] Thus, the initial implementation of the Company's proposed rate design should be a benefit, *i.e.*, lower monthly bills, for most customers. However, both Mr. Stevens and Attorney General witness Watkins point out that while the Company's proposal lowers most monthly heating season bills, all other monthly bills likely will be increased.[172] Thus, customers who experience high air conditioning bills may not want higher gas bills during the summer in exchange for lower bills during the heating season.[173]

Finally, Ms. Lacy differs with Mr. Stevens over what constitutes "rate shock."[174] According to Ms. Lacy, "rate shock" can occur without changing rates under the existing rate design.[175] For example, exceptionally cold weather during the heating season could trigger dramatic increases in gas bills that can result in rate shock.[176] Ms. Lacy avers that based on her experience, the Company's proposed rate design will lessen rate spikes and will be more easily understood and accepted by customers.[177]

Regardless of whether the Company's proposed change in rates results in "rate shock," the Company's proposal represents a significant change that will have an adverse impact on a substantial number of customers. Though the Company tried to mitigate the adverse effects of moving away from volumetric rates toward fixed monthly rates, because the Company has designed its rates to be revenue neutral, some customers, small users, will be adversely affected by its proposal. Moreover, Columbia Gas offers no studies or evidence that customers want, will

[170] $360.00 = 12 months X $30.00 fixed monthly charge.
[171] Exhibit JLH-7, at 6.
[172] Exhibit JAS-46, at 4-5; Exhibit GAW-58, at 15; Exhibit CML-66.
[173] Exhibit JAS-46, at 4-5; Exhibit GAW-58, at 15.
[174] Company Brief at 23; Lacy, Tr. at 498-500.
[175] *Id.*
[176] *Id.*
[177] *Id.*

accept, or support its proposed change in rate design.[178] Instead, the Staff provides an example in Atlanta Gas where the complaints of adversely affected customers were enough to reverse a decision to replace a volumetric rate with a flat rate. Although the specifics of the Atlanta Gas example are distinguishable from the Company's proposal in this case, the Staff's example tends to highlight the Company's lack of evidence regarding customer acceptance of its rate design. Therefore, I find that Columbia Gas has failed to prove that its proposed rate design meets the rate design attribute of public acceptability and may cause some customers to experience "rate shock."

Incentives for the Efficient Consumption of Natural Gas

Both the Staff and the Attorney General contend that the Company's proposed rate design will discourage economically efficient consumption of natural gas.[179] As Staff witness Stevens testified, replacing the non-gas volumetric rate with a flat monthly rate will reduce the amount of savings customers will realize when they purposefully conserve gas.[180] Attorney General witness Watkins concluded that the institution of a flat monthly rate would reduce the incremental cost of gas.[181] This makes it more likely that customers will increase consumption during periods of high demand.[182] Mr. Watkins further predicted that if customers increased consumption during peak-demand periods, in the short run the Company would lose revenue from interruptible customers and incur higher reservation charges. In the long run, increased consumption during peak-demand periods may force Columbia Gas to undertake unnecessary expenditures for distribution facilities.[183]

Columbia Gas disagrees and maintains that its proposed rate design will provide better price signals to customers.[184] Company witness Lacy argues that the Company's proposed rate design will provide better price signals to customers because it "reflects costs more accurately."[185] Furthermore, Ms. Lacy questions whether conservation of natural gas is, in itself, economically justified.

> Natural gas conservation simply for the sake of conservation may not be economically justified and, in fact, may not be cost justified. For instance, more effective overall energy conservation may be achieved by the increased use of natural gas to displace the use of other, less efficient energy sources.[186]

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[178] Lacy, Tr. at 504-05; Tr. at 512-13.
[179] Staff Brief at 17-18; Exhibit JAS-46, at 10-11; Attorney General Brief at 8; Exhibit GAW-58, at 7; Watkins, Tr. at 401-02, 422.
[180] Exhibit JAS-46, at 10.
[181] Exhibit GAW-58, at 7.
[182] *Id.*
[183] *Id.*; Watkins, Tr. at 401-02, 422.
[184] Company Brief at 29-30; Exhibit CML-62, at 4-5; Lacy, Tr. at 502-03.
[185] Exhibit CML-62, at 5.
[186] *Id.*

Setting aside the issue of whether the Company's proposed rate design reflects costs more accurately, which is discussed in detail below, there appears to be little disagreement among the parties concerning the effect the Company's proposed rates may have on conservation. Replacing a volumetric rate with a fixed charge can only lessen the incentives and benefits associated with conservation. Columbia Gas does not appear to dispute this assessment of the impact of its rate design on customer conservation. Instead, the Company argues against the need for the conservation of natural gas. Accepting the Company's argument would represent a major shift in regulatory policy, with little or no evidence offered in this case to support such a change. Accordingly, I agree with Staff and the Attorney General that the Company's proposed rate design will discourage customers from conserving natural gas.

Discrimination Between Customers

Both Staff and the Attorney General claim that the Company's proposed rate design is discriminatory.[187] They contend that under the Company's proposal there exist situations where similar customers would be charged dissimilar rates and other situations where dissimilar customers would be charged the same rate.[188] Regarding similar customers charged dissimilar rates, under the Company's proposal, residential heating customers with annual usage less than or equal to 150 Mcf would be charged a flat monthly rate of $32.00 for non-gas service.[189] Customers using more than 150 Mcf would be charged more than twice that amount for non-gas service, or $67.45.[190] No one disputes that there is little difference in non-gas costs to serve customers that fall on either side of its proposed rate break point.[191] Nonetheless, a customer using as little as 1 Mcf more than his neighbor may, as a result, pay more than twice as much in non-gas costs. A distribution of bills prepared by Columbia Gas shows that there are 4,879 residential customers with annual usage between 140.1 Mcf and 160 Mcf.[192]

As explained by Company witness Lacy, the purpose of the break point in residential rates was to mitigate the large increases and large decreases related to moving away from the current volumetric rate design.[193] The higher fixed monthly rate for customers using more than 150 Mcf annually prevents these very high-usage customers from receiving a windfall under the Company's fixed non-gas charge proposal.[194] Moreover, Columbia Gas further attempts to mitigate the

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[187] Staff Brief at 17; Stevens, Tr. at 280, 305; Attorney General Brief at 9-11; Exhibit GAW-58, at 8-9; Watkins, Tr. at 401-03.
[188] *Id.*
[189] Exhibit CML-42 at Schedule No. 1. Furthermore, the rates shown are based on the Company's original application. Therefore, these rates will be reduced to reflect the Commission's Final Order in Case No. PUE970455 and the Stipulation. *See*, Company Brief at 10, n.10.
[190] *Id.*
[191] Lacy, Tr. at 507.
[192] Exhibit CML-42, at Schedule No. 2, page 2.
[193] *Id.* at 5.
[194] *Id.*

impact of the break point on individual customers by agreeing not to reclassify a customer from the lower to the higher rate if the customer's usage falls within a five percent usage threshold.[195]

Turning to dissimilar customers that would be charged similar rates under the Company's proposal, Columbia Gas testified that approximately 94.34% of its residential customers have annual usage less than or equal to 150 Mcf.[196] The average annual level of consumption for a residential heating customer is 79.06 Mcf.[197] Staff witness Stevens testified that "customers that use more gas cause the Company to incur more costs."[198] Similarly, Attorney General witness Watkins offered that larger residential customers had lower load factors than smaller residential customers and placed greater burdens on the Company's system.[199] Consequently, both witnesses contend that it is inappropriate to institute a single fixed monthly charge that encompasses most residential customers.

In contrast, the Company maintains that based on the non-gas cost of serving residential customers, most residential customers are similarly situated.[200] Indeed, Ms. Lacy testified that the non-gas cost of service for these customers consists primarily of fixed costs.[201] Specifically, Ms. Lacy opines that these costs include the following:

> items such as plant depreciation, operation and maintenance of plant, customer account and service costs, taxes, and return on rate base. Some of these costs, such as operation and maintenance expenses, are essentially fixed costs relative to levels of plant investment and do not vary significantly from year to year. For operational and safety reasons, certain sustained levels of these expenses are required.[202]

Therefore, Ms. Lacy concluded that "it is an appropriate reflection of cost causation to collect these costs in a fixed monthly service charge."[203]

Once again, setting aside the issue of cost causation or cost of service which is discussed below, the arguments presented by the parties concerning discrimination between customers tend to illustrate why no other gas utility has implemented a fixed rate for the recovery of non-gas costs. Volumetric-based rates tend to capture small differences between customers. This avoids large jumps in charges between customers who happen to fall at or near rate break points. In

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[195] *Id.* at 9-10.
[196] *Id.* at Schedule No. 2, page 2.
[197] *Id.* at Schedule No. 3, page 1.
[198] Stevens, Tr. at 280.
[199] Watkins, Tr. at 401-02.
[200] Lacy, Tr. at 505-06.
[201] Exhibit CML-62, at 6-7.
[202] *Id.* at 6.
[203] *Id.*

addition, volumetric-based rates tend to avoid problems related to attempting to capture only similarly situated customers within each rate group.

Cost of Service

One of the fundamental differences between Columbia Gas, on the one hand, and Staff and the Attorney General, on the other, concerns how the Company incurs its non-gas costs. At the heart of the Company's case is the contention that "[t]he non-gas cost of service for residential and small general service customers consists primarily of fixed costs, mostly mains and mains-related costs."[204] The Company further argues that because these costs are fixed and do not vary based on throughput, non-gas rates should be fixed and not vary based on throughput.[205]

The Staff and the Attorney General take more of a long-run perspective from which they conclude that customers that use more gas cause the Company to incur more costs.[206] According to Attorney General witness Watkins, "gas distribution mains are sized and built to meet peak loads."[207] Therefore, from a long-run perspective, where, as Mr. Watkins testifies, "all costs are variable,"[208] prices based on consumption and usage are the best means of assigning non-gas costs to the customers that cause such costs to be incurred.

In this case, Columbia Gas fails to prove that its proposed rate design properly captures how it incurs non-gas costs. In this entire record, the few lines of testimony quoted from Company witness Lacy in this and the previous section constitute almost all of the testimony and analysis presented by the Company in support of its cost assumptions. The Commission usually requires more evidence before making as radical a change in rate design as proposed by Columbia Gas in this case. For example, in Case No. PUE920041,[209] the Commission rejected a change in rate design proposed by Virginia Power because it failed to provide adequate cost analysis.

> Virginia Power's proposed changes were not supported by the evidence; there was inadequate analysis offered by the Company, and there were too many unanswered questions. Rather than relying on data and analysis, the Company urged approval of what must be described as a drastic change in its residential line extension policy and an almost 40% increase in the summer/winter differential of the tail block of the residential rate because the changes were "cost-based." As the Company well knows, there can be many rate

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[204] *Id.*
[205] Company Brief at 25;
[206] Stevens, Tr. at 280; Watkins, Tr. at 401-02.
[207] Exhibit GAW-58, at 9.
[208] Watkins, Tr. at 403.
[209] *Application of Virginia Electric and Power Company, For a general increase in rates*, Case No. PUE920041, 1994 S.C.C. Ann. Rep. 319.

> designs to recover the same revenue, each of which could be fairly termed "cost-based." This label, without more, does not suffice.[210]

Moreover, the Company's proposed rate design and cost-causation testimony appear to be fundamentally at odds with the Company's cost of service study. One of the underlying principles upon which the Company's cost of service study is constructed is that mains are partly a function of throughput.[211] Columbia Gas abandons this principle in developing its rates. Indeed, Columbia Gas, in its rate design testimony, attempts to divorce itself completely from its cost of service study. Company witness Hannuksela testified that Columbia Gas viewed the cost of service study to be used for class cost allocation, only.[212] Rate design was a separate process.[213] Ms. Lacy further confirmed that the principles used in the cost of service study were used only to allocate costs between customer classes.[214]

Contrary to the Company's testimony, a cost of service study can be an important tool in designing rates. For example in Case No. PUE900032,[215] the Commission chose a rate design alternative offered by Staff over the utility's proposal based on the results of a cost of service study.

> In this proceeding, Staff has suggested alternative rate proposals for all rate schedules except the Security Lights schedule. The customer charge, demand charge, and energy prices found in Staff's proposed rates are based on Staff's findings relative to CVEC's cost of service study.[216]

Even in this case, Company witness Skirtich states that the Company's cost of service study is to be used "for purposes of rate design."[217] Consequently, the underlying principles of the cost of service study that attempt to capture how costs are incurred should remain relevant and provide guidance in designing rates.

In summary, Columbia Gas has failed to prove that its proposed non-gas rates are cost-based.

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210 *Id.* at 326.
211 Exhibit JES-11, at 18.
212 Hannuksela, Tr. at 237-38.
213 *Id.*
214 Lacy, Tr. at 258.
215 *Application of Central Virginia Electric Cooperative, For a general increase in rates*, Case No. PUE900032, 1990 S.C.C. Ann. Rep. 341.
216 *Id.* at 344.
217 Exhibit JES-11, at 17.

Practicality

The Attorney General raises several administrative or practical problems with the Company's proposed rate design.[218] These perceived problems all generally involve the classification of customers if the Company's proposed rate design is implemented. For example, under the Company's proposed tariff, residential customers are responsible for notifying Columbia Gas of any changes that would affect the customer's classification as either a heating or non-heating customer.[219] In response to interrogatories, Columbia Gas indicates that it "will not seek to retroactively impose new charges or to refund to customers who change energy sources to or from natural gas heating."[220]

Furthermore, Attorney General witness Watkins questions the Company's ability to weather normalize each residential customer's usage in order to determine whether the residential heating customers should be charged the non-gas monthly rate for annual usage less than or equal to 150 Mcf, or the non-gas monthly rate for annual usage in excess of 150 Mcf.[221] Even if the Company is able to weather normalize each customer's usage properly, the Attorney General argues that this process likely will create customer confusion.[222]

During the hearing Company witness Lacy explained that Columbia Gas routinely weather normalizes usage on an individual basis for over 1.2 million customers located in Kentucky, Maryland, and Ohio.[223] Ms. Lacy described this process as follows:

> The basic procedure that they use for weather normalizing on an individual basis is to establish a base usage for each customer. It is the average of the July and August bill each year. And then they subtract that from the total usage for the year . . . . that's the heat usage. They divide that by the actual degree days during the 12-month historic period. . . . Then they . . . multiply that by the normal days, and add that back to the base to come up with an individual calculation of the normalized usage.[224]

From an administrative perspective, Columbia Gas demonstrates that its proposed rate design is workable. However, the issues raised by the Attorney General tend to show that there may be some customer confusion regarding implementation and application of the Company's proposed rates.

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[218] Attorney General Brief at 11-13; Exhibit GAW-58, at 11-14; Watkins, Tr. at 405, 413-15.
[219] Exhibit JLH-7, at 5; Exhibit GAW-58, at 11-14, Schedule 4.
[220] Exhibit GAW-58, Schedule 4.
[221] Watkins, Tr. at 405, 413-15.
[222] Attorney General Brief at 12-13.
[223] Lacy, Tr. at 482.
[224] *Id.* at 482-83.

Overall Analysis

The change in rate design proposed by the Company represents a radical departure from the historical rates for residential and small commercial customers. Based on the above analysis of the record in this case, I find that Columbia Gas has failed to prove that its proposal sufficiently possesses the attributes of a sound rate structure. Principally, Columbia Gas was unable to demonstrate that its proposal would be acceptable to its customers. Furthermore, Columbia Gas was unsuccessful in its attempt to substantiate that its proposed rate structure accurately reflected the underlying cost causation and cost of service.

Impact of the Company's Proposed Rate Design on its Cost of Equity

If the Commission were to adopt the Company's proposed rate design in this case, Staff and the Attorney General recommend that the Commission also reduce the return on equity for Columbia Gas.[225] Both base their recommendations on the premise that implementation of the Company's proposed fixed rate design will lower its risk, substantially.[226] In recognition of this lower risk, Staff witness Ballsrud recommended that the return on equity for Columbia Gas be lowered by 50 basis points.[227] Likewise, Attorney General witness Parcell urged a 75 basis point reduction in the return on equity for Columbia Gas.[228]

On the other hand, Columbia Gas maintains that its proposed rate design, if approved, will have no impact on the Company's risk from a shareholder's perspective.[229] As Company witness Haltiner testified, "[t]he proposed rate design should be neutral with respect to the Company's revenue, operating cash flow, and income streams over the long-term."[230] Moreover, Dr. Haltiner objected to each of the adjustments offered by Staff and the Attorney General, offering that he could not find "theoretical support for a significant adjustment anywhere near the magnitude of Messrs. Parcell and Ballsrud."[231] Thus, Dr. Haltiner concluded that "little or no equity adjustment is appropriate."[232]

Accordingly, the impact of the Company's proposed rate design on its cost of equity presents two questions. First, does the Company's rate design have an impact on the Company's risk from a shareholder's perspective? Second, if the Company's rate design has an impact on the Company's risk from a shareholder's perspective, what adjustment, if any, should be made? These questions are addressed separately below.

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[225] Staff Brief at 21-28; Attorney General Brief at 16-21.
[226] Staff Brief at 21; Attorney General Brief at 16.
[227] Exhibit JRB-52, at 2.
[228] Exhibit DCP-59, at 4-5, 53.
[229] Company Brief at 30-42.
[230] Exhibit JRH-73, at 3.
[231] Haltiner, Tr. at 541.
[232] *Id*.

Impact of the Company's Rate Design on Shareholder Risk

Columbia Gas argues that for its proposed rate design to have an impact on the cost of equity, such a change in rate design would have to increase cash flow or income over the long-term.[233] Company witness Haltiner recognizes that the Company's proposed rate design would result in revenue stability and increased predictability.[234] Nonetheless, revenue stability and increased predictability do not necessarily translate into increased cash flow or income over the long-term.[235] Dr. Haltiner equates the Company's proposed fixed rate design to a corporate hedging strategy, which is unlikely to affect future cash flow or income of a regulated utility such as Columbia Gas.[236]

Staff witness Ballsrud attempted to compare projected revenue growth for Columbia Gas under the current and proposed rate design methodologies.[237] Mr. Ballsrud's calculations showed significantly higher growth in revenues under the Company's proposed rate design.[238] On rebuttal, Company witness Horner offered several correcting adjustments to Mr. Ballsrud's calculations. Based on Mr. Ballsrud's corrected calculations, Mr. Horner concluded that "there would be some minimal positive effect on revenue that would better enable the Company to earn its authorized return."[239]

Attorney General witness Parcell approached the question of risk from a creditworthiness perspective.[240] Because there are no other gas distribution utilities with a rate design similar to that proposed by Columbia Gas in this case, Mr. Parcell compared the adoption of the Company's proposal to the institution of SFV rate design or a weather normalization adjustment ("WNA").[241] Mr. Parcell found that rating agencies reacted favorably to the adoption of either SFV rate design or a WNA.[242] Based on judgment that the adoption of the Company's proposed rate design would reduce risks more than adoption of the SFV rate, which in turn would reduce risks more than implementation of a WNA, Mr. Parcell concluded that rating agencies are likely to view adoption of the Company's proposed rate design as a significant reduction in risk.[243] This reduced risk should translate into a corresponding reduction in the cost of common equity.[244]

The Company's testimony that there may be a positive effect on revenue and the Attorney General's testimony regarding likely benefits to the Company's creditworthiness sufficiently

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[233] Company Brief at 31, 41; Exhibit JRH-73, at 17-19.
[234] Exhibit JRH-73, at 3.
[235] *Id.* at 3-4.
[236] *Id.* at 18-21; Haltiner, Tr. at 555.
[237] Exhibit JRB-52, at 12-14; Schedule 17.
[238] *Id.*
[239] Exhibit REH-68, at 8.
[240] Exhibit DCP-59, at 21-26.
[241] *Id.*
[242] *Id.* at 22-25; Parcell, Tr. at 433-35.
[243] Exhibit DCP-59, at 25-26.
[244] *Id.* at 22.

indicated that the Company's proposed rate design would reduce shareholder risks. Dr. Haltiner does not dispute that the adoption of a WNA is likely to have a positive impact on assessments of creditworthiness and the cost of debt.[245] Rather, Dr. Haltiner questions whether a possible reduction in the cost of debt translates into a reduction in the cost of equity.[246] Dr. Haltiner attempts to distinguish the risk associated with weather-related revenue variability as an unsystematic risk that can be diversified away by equity investors.[247] In calculating the cost of equity using the Capital Asset Pricing Model ("CAPM"), only systematic risks, or risks that can not be diversified away affect the results.[248] Consequently, Dr. Haltiner argues that even if the Company's proposed rate design reduces the cost of debt for Columbia Gas, this does not indicate that the Company's proposal also influences the cost of equity.[249]

In addition to Staff and the Attorney General, Roanoke Gas disagrees with Dr. Haltiner on this point, at least as far as WNAs are concerned.[250] Roanoke Gas "firmly believes that investors consider the absence of a WNA to indicate increased risk and that such risk should not be considered an "unsystematic risk."[251]

Attempting to classify the risk associated with the Company's current or proposed rate design as systematic or unsystematic, fails to take into consideration the breadth of factors weighed by the Commission in setting a utility's cost of equity. Traditionally, the Commission utilizes several methods or models to assess a utility's cost of equity. Even then, judgment, as opposed to a mathematical exercise, is required. In addition, classification as either systematic or unsystematic does not appear helpful in determining whether the Company's proposed rate design will affect the Company's future cash flows or income. As with Dr. Haltiner's assessments of hedging benefits, the impact on future cash flows or income of lowering a utility's cost of debt or lowering its weighted cost of capital[252] depends on the timing of rate filings and regulatory lag. Based on the record in this case, I find that the Company's proposed rate design is likely to have a positive impact on the future cash flows or income of Columbia Gas. Therefore, I find that adoption of the Company's proposed rate design should serve to reduce the Company's cost of equity.

Adjustment to the Cost of Equity

Measuring the impact of a single risk factor on the overall cost of equity can be a difficult process.[253] In this case, the novelty of the Company's proposal only adds to the problems

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[245] Exhibit JRH-73, at 7-8; Haltiner, Tr. at 545.
[246] Exhibit JRH-73, at 8-10; Haltiner, Tr. at 545.
[247] Exhibit JRH-73, at 9-10; Haltiner, Tr. at 554.
[248] *Id.*
[249] Exhibit JRH-73, at 8-10; Haltiner, Tr. at 545.
[250] Roanoke Gas Brief at 2-3.
[251] *Id.* at 2.
[252] Exhibit JRH-73, at 20.
[253] Ballsrud, Tr. at 353.

associated with measuring its impact, if any, on the cost of equity.[254] Accordingly, Staff witness Ballsrud and Attorney General witness Parcell offer several different measurements of the potential reduction in the cost of equity associated with implementation of the Company's proposed rate design.

Mr. Ballsrud recommends that the Commission reduce the cost of equity for Columbia Gas by 50 basis points if it adopts the Company's rate design proposal.[255] Mr. Ballsrud based his recommendation on two calculations. First, Mr. Ballsrud attempted to measure the impact of a positive change in debt ratings on the cost of equity.[256] Relying on a study presented by Mr. Parcell in testimony filed before the South Carolina Public Service Commission in 1995,[257] Mr. Ballsrud concluded that a full rating category change would result in a 53 basis point adjustment in the cost of long-term debt.[258] Further, based a Moody's study that showed that over a fifteen year period, equity returns for the S&P 500 varied 1.8 times more than the returns for long-term debt, Mr. Ballsrud multiplied his 53 basis point adjustment by 1.8 to determine that the impact of a full rating category change on equity returns should be 95 basis points.[259]

Columbia Gas argues that Mr. Ballsrud fails to provide any evidence that its proposed change in rate design will increase its debt rating by a full category.[260] Moreover, on cross-examination, Mr. Ballsrud explained that the 53 basis point adjustment was based on the average spread in long-term debt costs between A- and Aa-rated companies during the 1975 through 1994 period.[261] Looking at more current results, this spread was only 13 basis points during 1998, and 9 basis points in May 1999.[262]

In his second adjustment calculation, Mr. Ballsrud attempts to adjust the beta risk factor used in his CAPM cost of equity determination to reflect a 47% reduction in the volatility of earnings.[263] Mr. Ballsrud arrived at the 47% reduction in volatility by comparing the standard deviation of return on equity for five gas distribution utilities with a WNA, with the standard deviation of return on equity for six gas distribution utilities without a WNA.[264] According to Mr. Ballsrud, beta for gas utilities with a WNA should decline from .617 to .562.[265] Such a reduction would translate into a reduction in the cost of equity of approximately 44 basis points.[266] During

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[254] Exhibit JRB-52, at 14-15; Exhibit DCP-59, at 21; Exhibit JRH-73, at 4.
[255] Exhibit JRB-52, at 2.
[256] *Id.* at 15.
[257] Testimony in Docket No. 95-715-G, Piedmont Natural Gas Company, September 21, 1995. *Id*. at 15, n.8.
[258] Exhibit JRB-52, at 15.
[259] *Id.*
[260] Company Brief at 37-38.
[261] Ballsrud, Tr. at 377.
[262] *Id.* at 376.
[263] Exhibit JRB-52 at 16, Schedule 18.
[264] *Id.* at Schedule 14; Ballsrud, Tr. at 380-81.
[265] *Id.*
[266] *Id.*

the hearing, Mr. Ballsrud updated his calculation to show the risk-adjusted beta to be .491 and the corresponding reduction in the cost of equity to be 100 basis points.[267]

Columbia Gas pointed out that instead of attempting to calculate beta estimates for companies with WNAs, all Mr. Ballsrud had to do was look at the actual betas for those companies.[268] Using actual betas provided the opposite result, *i.e.*, the betas for companies with WNAs were higher than the betas for companies without a WNA.[269]

Mr. Parcell also offered a calculation in support of his 75 basis point equity adjustment. Mr. Parcell estimated an equity adjustment based on the average differential in preferred stock costs for A-rated and Aa-rated companies over the 1975-1998 period.[270] Under Mr. Parcell's calculation, if a company increased its credit rating from A to Aa, then its yield on preferred stock would decrease by 48 basis points.[271] Mr. Parcell further multiplies this result by the ratio of equity returns to preferred stock yields, or 1.6, to account for the greater risk of common equity.[272] Thus, Mr. Parcell finds that the marginal cost of equity associated with the Company's proposed new rate design is 77 basis points, which is slightly above his recommended adjustment.[273]

Like Mr. Ballsrud, the Company criticizes Mr. Parcell for assuming that the change in rate design will increase the Company's ratings by a whole category and for failing to reflect current capital market conditions.[274] Moreover, Columbia Gas takes exception to Mr. Parcell's risk adjustment.[275] On rebuttal, Dr. Haltiner testified that Mr. Parcell's own analysis demonstrates that yields ratios fail to reflect risk differentials.[276] For example, Mr. Parcell shows that yields on preferred stock are lower than yields on bonds for companies with the same credit rating.[277] This is the opposite of what should occur if bonds are more risky than preferred stock.

In addition, Columbia Gas argues that both Mr. Ballsrud and Mr. Parcell used companies with WNAs and other risk reducing forms of regulation in developing their DCF and CAPM cost of equity recommendations.[278] The Company maintains because the DCF and CAPM studies already reflect companies with rate designs that lower risks, no additional adjustment to reflect the lower risk associated with the Company's proposed rate design is necessary.[279]

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[267] Exhibit JRB-53, Ballsrud, Tr. at 331.
[268] Ballsrud, Tr. at 385-86.
[269] *Id.*; Exhibit JRB-56.
[270] Exhibit DCP-59, at 32-36.
[271] *Id.*
[272] *Id.* at 36.
[273] *Id.*
[274] Company Brief at 33-34.
[275] *Id.* at 34; Exhibit JRH-73, at 17.
[276] *Id.*
[277] Exhibit DCP-59, at Schedules 14 and 15; Exhibit JRH-73, at 17.
[278] Company Brief at 36-37.
[279] *Id.* at 37.

Based on the record, I find that the adjustments offered by Mr. Ballsrud and Mr. Parcell significantly overstate the impact the Company's proposed rate design may have on the cost of equity. Specifically, the use of historical averages to quantify the impact of a credit ratings upgrade fails to reflect market conditions likely to occur during the time rates from this case will be in effect. I agree with Dr. Haltiner that a full ratings increase should be worth somewhere between 10 and 20 basis points for the cost of long-term debt.[280] Taking into consideration the relative risk between debt and equity, and allowing for the fact that several of the companies upon which the unadjusted cost of equity was derived have WNAs, I find that if the Company's proposed rate design is adopted in this case, the cost of equity should be adjusted by 10 basis points to account for the reduced risk. Based on the Stipulation, this risk reduction adjustment would reduce overall revenue requirements by $200,000, or $20,000 per basis point.[281]

Furthermore, if the Commission adopts the Company's proposed rate design and adjusts overall revenue requirements to reflect reduced risks, then the Commission should apportion the reduction in revenue requirements to all customer classes. Attorney General witness Watkins argued that such a reduction should be assigned exclusively to the residential and small commercial classes.[282] Mr. Watkins bases his recommendation solely on a view that adoption of the Company's proposal would eliminate virtually all risk in serving residential and small commercial customers.[283] On cross-examination, Mr. Watkins backed away from his assessment of risk.[284] Further, Mr. Watkins fails to provide any cost analysis or other justifications that would support the abandonment of the Commission's long-stated goal of parity between the returns for customer classes. Therefore, any reductions in revenue requirements in this case should be apportioned to all customer classes, following the apportionment methodology agreed to by the Company and Staff.

FINDINGS AND RECOMMENDATIONS

In conclusion, based on the Stipulation, and on the evidence received in this case, I find that:

(1) The use of a test year ending December 31, 1997, is proper in this proceeding;

(2) The Company's test year operating revenues, after all adjustments, were $190,443,501;

(3) The Company's test year operating revenue deductions, after all adjustments, were between $168,589,242 and $168,807,643;

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[280] Haltiner, Tr. at 551-52.
[281] Stipulation at ¶ 2 B.
[282] Exhibit GAW-58, at 17-18.
[283] *Id.* at 17.
[284] Watkins, Tr. at 417.

(4) The Company's test year net operating income, after all adjustments, were between $21,635,858 and $21,854,259

(5) The Company's test year adjusted net operating income, after all adjustments, were between $21,388,518 and $21,606,920;

(6) The Company's current rates produced a return on adjusted rate base of between 7.99% and 8.07% and a return on equity of between 8.84% and 9.00%;

(7) The Company's current cost of equity is within a range of 10.65% - 11.65%;

(8) The Company's overall cost of capital, based on the Stipulation and using the capital structure of the Columbia Energy Group as of March 31, 1999, is between 8.91% and 8.99%;

(9) The Company's adjusted test year rate base is between $267,603,156 and $267,641,968;

(10) The Company's application requesting an annual increase in revenues of $9,194,322 is unjust and unreasonable because it will generate a return on rate base greater than 8.99%;

(11) The Company requires $3,900,000 in additional gross annual revenues to earn a return on rate base of between 8.91% and 8.99%;

(12) The Company's proposed revenue allocation methodology is just and reasonable;

(13) The Company should file permanent rates designed to produce the additional revenues found reasonable using the revenue apportionment methodology proposed by the Company and agreed to by the Staff;

(14) The Company should be required to refund, with interest, all revenues collected under its interim rates in excess of the amounts found just and reasonable herein;

(15) Within two months of the final order in this case, the Company shall implement a monthly meter reading contract. An additional customer charge not to exceed $0.25 per customer, and derived as described in the Stipulation, may take effect upon the Company's implementation of monthly meter reading;

(16) The Company will remove the cost of the Metered Propane Service subsidy from purchased gas adjustment filings as described in the Stipulation;

(17) The Company should not be permitted to implement its proposed new rate design for residential and small commercial customer classes, by which most non-gas costs would be recovered through fixed monthly charges instead of through traditional volumetric rates; and

(18) If the Company's proposed new rate design is implemented, the cost of equity should be reduced by an additional 10 basis points and revenue requirements should be reduced by an additional $200,000.

In accordance with the above findings, ***I RECOMMEND*** that the Commission enter an order that:

1. ***ADOPTS*** the findings in this Report;

2. ***GRANTS*** the Company an increase in gross annual revenues of $3,900,000; and

3. ***DIRECTS*** the prompt refund of all amounts collected under interim rates in excess of the rate increase found just and reasonable herein.

COMMENTS

The parties are advised that pursuant to Rule 5:16(e) of the Commission's Rules of Practice and Procedure,[285] any comments to this Report must be filed with the Clerk of the Commission in writing, in an original and fifteen copies, within fifteen days from the date hereof. The mailing address to which any such filing must be sent is Document Control Center, P. O. Box 2118, Richmond, Virginia 23218. Any party filing such comments shall attach a certificate to the foot of such document that copies have been mailed or delivered to all other counsel of record and to any party not represented by counsel.

Respectfully submitted,

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Alexander F. Skirpan, Jr.
Hearing Examiner

[285] 5 VAC 5-10-420 F.